

AROAD TO LEM LEM (GREEN) REVOLUTION

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From atop Nyala Hotel, when I veer round my head to all sides, it is lem lem (Green) everywhere. After two months of incessant rains, the monsoon has come to an end for the Upper Highlands of Eritrea. I could see clearly a new emerald green mat, replacing the old ones, spread over Asmara and on the ways down to Keren and Massawa. Of course that monsoon has to begin yet in the Eastern Lowlands like Assab and Massawa is altogether an entirely different matter. With the ceasing of the monsoon, the harvesting has taken a new impetus and the produce would be taken home soon. It is a celebration time for the farmers and peasants of Eritrea. But it (the green) has signaled me into thinking whether all this is enough. There are many things that kept scratching my mind since I came here last year. In fact, the first two months of my stay gave me sufficient time to go into this indepth. The first and the foremost that I tried to grapple with is whether, in reality, what is brought home now would last until June next year. Whereas some areas of Eritrea had two monsoons in a year, some areas have hardly one. Hence it may lead to a food crisis, enormous increase of prices of food items including vegetables, staple foods, etc.

In fact the last few years witnessed recurrent drought in some of the areas of Eritrea leading to food shortages. The government has to provide succor and relief to those affected and the needy. It is not possible for any government to meet this terrible and ever increasing demand continuously and perennially. Looking at this multifaceted problem it occurred to me that there are a number of simple and low cost alternative ways of help improving this situation, which could be a road map as well, for achieving a lem lem revolution (green revolution) in Eritrea in a short time—without passing the buck on to the government shoulders again. But before I give any theoretical shape to my ideas I first tried to acquaint myself with the ongoing Agriculture Research in Eritrea, the magnitude of Agricultural and Horticultural operations and their yields. It gave me a lot of insight into the depth of the problem and in devising strategies that supplement and complement the efforts of the government.

It is clear that Agriculture and cattle rearing are the spinal cord of Eritrean economy and the messages related to intensive cultivation must spread across the State as much as extensive cultivation. Most of times, as is the case with many developing countries, the fruits of Agriculture research do not percolate down to the common man due to the failure of the communication. Nor do the experiences of countries with similar

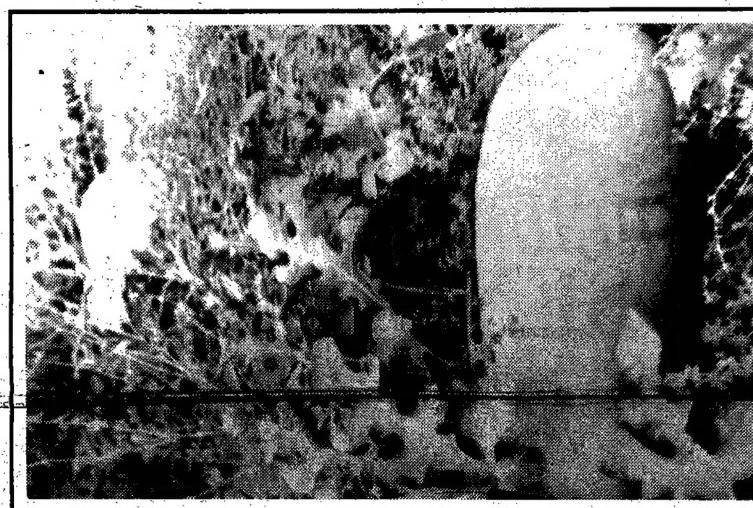
topographical and climatological conditions are accessible to the people in the absence of a communication.

Developing a Strategy

The Green Revolution in Eritrea, as I visualize, is indeed possible in a short time by synchronizing the communication with the participation of the people, especially the youth and the elders. Whereas the communication strategy defines and redefines the low cost and accessible methods of agriculture, horticulture, floriculture, pisciculture, etc. and motivates the people to participate in a spirit of revolutionary campaign, people participation complements it by an increased productivity leading to a sustained economy. Both together contribute to the growth of national GDP in the process. Any strategy thus being evolved must include a range of combinations and must extend to the widening of the cuisine without prejudice to the tra-

ner item in Eritrea even today. Any strategy of augmenting vegetable and grain production without extending the present concept of Eritrean cuisine and culinary skills besides its catering technology would prove the whole exercise redundant, counterproductive and export dependant.

The basis for augmenting such a vegetable and grain production must be essentially an internal consumption of the produced as a first choice. It is possible only when strategy aims at integrating the production with the cuisine, the consumption science (namely Catering technology or Homescience as one may please to call it). Thus the communication strategy adaptable in this regard automatically becomes two-fold. One is disseminating the messages related to low cost production of vegetables and grains at every possible open expanse of Eritrea and the other is to synchronize it with the appropriate culinary skills and the manage-



ditional food culture of Eritrea. For instance Eritreans may not consume rice and wheat (except for kicha and tayta) as much as Indians and Chinese. However, there is a wide range of production of cereals, legumes, millets (dry land crops), though a matching range in vegetables is not yet found.

The strategy therefore aims at augmenting the vegetable production by combining the horticulture with agriculture and afforestation such as social forestry and village forestry both which can be effectively synchronized with vegetable production and by providing additional cuisine and culinary skills necessary to meet the nutritional requirements of the undernourished and malnourished. For instance the large-scale production of cereals, millets, and pulses (legumes) could be converted to baby foods or nutritional foods that could be easily prepared at home level (not on commercial level) to overcome the health problems of both the mother and the child due to malnutrition and can meet the nutritional requirements of general populace as well. Furthermore, they could be utilized for a number of staple foods, though Ingera continues to be the single largest most sought after staple food as well as lunch or din-

ment, extendable to catering and hotel management technology that opens up new market economy and generates more employment.

Thus there would be emerging a range of strategies with the varied combinations. For instance the following strategies could be a simple effort to meet the present requirements of the people and the country as a whole.

Strategy

- a. Low Cost vegetable Production integrated with cuisine.
- b. Dryland farming for augmenting the production of Cereals, Millets, Pulses and nuts for integrating with and supplementing nutritional requirements.
- c. Afforestation: i. Agro-forestry ii. Social-forestry iii Village forestry
- d. Conversion of Grains into Nutritional Foods such as baby foods and powders, which could be mixed with Milk or Water—both for Children, Women and Adults(for Domestic Consumption too) with extended cuisine
- e. Manufacturing Oils for Domestic consumption through cottage industries or home industries integrated with the cuisine
- f. Developing fiber from the fiber yielding products for commercial consumption

Part I

As part of grappling with this enormous problem I had to go through the literature and excellent work being done by the National Agricultural Research Institute (NARI), Halhale. For a similar appreciation by the general public, I do not hesitate to suggest them to visit the NARI stall at the ongoing Tourism Festival at Expo grounds (by the time this article is published it may have been concluded). The literature gave an insight into the extensive work being done on potatoes, Okra (lady's fingers), leafy vegetables such as Leek, Red Lettuce, Green Lettuce, Endive, Oak leaf, Iceberg, Green and Red pepper, Brinjal, Cauliflower, Cabbage, Tomatoes, etc., Among fruits Lula, Avocado, Navel Orange (*Citrus sinensis*), Mandarin (*Citrus reticulata*), Sweet Orange, Variegated cara etc., are experimented with for further development as high yielding varieties.

But there are a number of leafy vegetables, tuberous roots, pumpkins, and fleshy vegetables other than covered so far that could be cultivated in Eritrea, given the similarity of soils, moisture in the soils and the environment between Eritrea and India on an extensive scale. Particularly vegetable yielding climbers are a big omission among the vegetables listed above, though very little production of vegetables like Beetroot and Sweet Potato hardly meets the nutritional requirements of the people. Further, there is no communication strategy combined with agricultural policy of the State that enables spreading of the messages necessary for the cultivation of these vegetables listed above, at every open place available in Eritrea.

Low Cost Methods-Horticulture and Floriculture

a. Horticulture—Frontyard or Backyard Domestic Cultivation of Vegetables

The low cost agricultural methods chiefly offer suitable know-how to cultivate most of the vegetables mentioned in the foregoing in the front yard/backyard of the house. This is an important method through which the individual citizen can meet his or her domestic requirements. Given the high cost of the vegetables in the open market in Eritrea, and a consequent wastage of a substantial part of vegetables, such as tomatoes, leafy vegetables, beans, etc. due to putrefaction, the domestic cultivation of vegetables could be taken up to reduce undesirable expenses and to meet the nutritional requirements of the family members. As I see, most of the houses both in the rural areas as well as urban areas like Asmara and Keren do have a lot of open space but never utilized for these purposes. Unfortunately, growing vegetables in the frontyard or the backyard did not become a trend in Eritrean domestic life. The open space is either filled with some un-

cultivated or wild flower plants or grass or by junk. Most of the times, depending on the soil texture and the moisture content, most of the dry crops like tuberous roots, tomatoes and leafy vegetables like spinach including the variety of Amaranthus, Brinjal (*Solanum begalensis India var.*) ginger, and onion, could easily be cultivated. Hibiscus cannabinis is another plant, the leaf of which is of immense nutritive value and taste. It is used for preparing different cuisines, including a famous pickle that to India at Hyderabad house. Most of the vegetables and fruits available here and suggested here could be used for preparing pickles too.

As I passed through the roads of Paradiso near the transmitter I have even found Amaranthus plants of Indian variety the leaves of which could be cooked like Spinach leaves, the two varieties of leafy vegetables already available here. I also found some plants just adjacent to the transmission station of the 10kw MW transmitter bearing seeds, which emanated very sweet scent besides being very tasty. In India, these seeds are used as spicy item or mouth freshener after the meal and we call it Somp. I myself have grown ginger in the pots kept in our hotel besides growing coriander leaves by spraying coriander seeds. This apart, there are a number of vegetable climbers like different varieties of beans, snake gourds, bottle gourds, ridge gourds that could be conveniently grown in your house yard. Even in villages also these climbers could be sent over house roof where they begin to bear the fruits just as you find everywhere in India on the rural side. But again growing them without accompanying utility such as I mentioned above integrating with the cuisine or culinary skills may prove irrelevant.

Further some families like Labiateae, Amaranthaceae, Solanace grow as cohabitants conditioned by natural forces. Eritrea is a best example among African counties for such a beautiful co-existence of families in large scale next to India.

This need not rise the question of water availability. Whatever water is used for domestic consumption such as washing cloths, vessels, etc could be channeled to these plants. Further if there is a rearing of sheep, goats, cattle etc in the backyard, their wastes could also be used as manures for the cultivation of these plants. Somehow in this regard, the cultivation of vegetables at the domestic level leaves much behind the desired and is consequently reflected on the prices. What is required is to create awareness through the communication strategy—such as leaflets, brochures, pamphlets and electronic media—among the urban and rural people about their ability to cultivate a number of leafy, fleshy vegetables including fruits and flowers.